L Number	Hits	Search Text	DB	Time stamp
1	3	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:44
2	0	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:45
3	0	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:45
4	0	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:45
5	6971	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:45
6	14	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:47
7	18	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:49
8	27	[redacted]	USPAT; EPO; JPO; DERWENT	2003/08/19 12:50
9	3	xerogel and sol-gel and heparin	USPAT; EPO; JPO; DERWENT	2003/08/19 13:56
10	18	"5851299"	USPAT; EPO; JPO; DERWENT	2003/08/19 12:53
11	11	"5851229"	USPAT; EPO; JPO; DERWENT	2003/08/19 12:55
12	202	silica and xerogel and sol-gel	USPAT; EPO; JPO; DERWENT	2003/08/19 12:56
13	117	(silica and xerogel and sol-gel) and teos	USPAT; EPO; JPO; DERWENT	2003/08/19 12:56
14	0	((silica and xerogel and sol-gel) and teos) and metes	USPAT; EPO; JPO; DERWENT	2003/08/19 12:56
15	0	((silica and xerogel and sol-gel) and teos) and etes	USPAT; EPO; JPO; DERWENT	2003/08/19 12:57
17	0	(((silica and xerogel and sol-gel) and teos) and triethoxysilane) and heparin	USPAT; EPO; JPO; DERWENT	2003/08/19 12:57
16	12	((silica and xerogel and sol-gel) and teos) and triethoxysilane	USPAT; EPO; JPO; DERWENT	2003/08/19 13:47
18	3	xerogel adj5 air adj dried	USPAT; EPO; JPO; DERWENT	2003/08/19 13:49
19	180	tetraalkoxysilane and methyltriethoxysilane	USPAT; EPO; JPO; DERWENT	2003/08/19 13:50
20	0	(tetraalkoxysilane and methyltriethoxysilane) and silica adj xerogel	USPAT; EPO; JPO; DERWENT	2003/08/19 13:51
21	2	(tetraalkoxysilane and methyltriethoxysilane) and xerogel	USPAT; EPO; JPO; DERWENT	2003/08/19 13:52
22	32	(tetraalkoxysilane and methyltriethoxysilane) and sol-gel	USPAT; EPO; JPO; DERWENT	2003/08/19 13:52
23	0	((tetraalkoxysilane and methyltriethoxysilane) and xerogel) and nitric adj acid	USPAT; EPO; JPO; DERWENT	2003/08/19 13:53

24	12	((tetraalkoxysilane and methyltriethoxysilane) and sol-gel) and nitric adj acid	USPAT; EPO; JPO; DERWENT	2003/08/19 13:53
25	7	xerogel and heparin	USPAT; EPO; JPO; DERWENT	2003/08/19 13:56

L Number	Hits	Search Text	DB	Time stamp
1	28	heparin and aerogel	USPAT; EPO; JPO; DERWENT	2003/08/20 11:01
2	1060	heparin and hydrogel	USPAT; EPO; JPO; DERWENT	2003/08/20 11:03
3	4	heparin and silica adj5 hydrogel	USPAT; EPO; JPO; DERWENT	2003/08/20 11:02
4	7	heparin and hydrogel adj5 sol-gel	USPAT; EPO; JPO; DERWENT	2003/08/20 11:07
5	2	heparin and hydrogel and tetraethoxysilane	USPAT; EPO; JPO; DERWENT	2003/08/20 11:08
6	70	heparin and hydrogel and silane	USPAT; EPO; JPO; DERWENT	2003/08/20 11:09

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NEWS 4	Feb 24	TEMA now available on STN
NEWS 5	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 6	Feb 26	PCTFULL now contains images
NEWS 7	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 8	Mar 24	PATDPAFULL now available on STN
NEWS 9	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 10	Apr 11	Display formats in DGENE enhanced
NEWS 11	Apr 14	MEDLINE Reload
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NEWS 14	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
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NEWS 17	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 18	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 19	May 19	Simultaneous left and right truncation added to WSCA
NEWS 20	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 21	Jun 06	Simultaneous left and right truncation added to CBNB
NEWS 22	Jun 06	PASCAL enhanced with additional data
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NEWS 24	Jun 25	HSDB has been reloaded
NEWS 25	Jul 16	Data from 1960-1976 added to RDISCLOSURE
NEWS 26	Jul 21	Identification of STN records implemented
NEWS 27	Jul 21	Polymer class term count added to REGISTRY
NEWS 28	Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS 29	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS 30	AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 31	AUG 15	PATDPAFULL: one FREE connect hour, per account, in September 2003
NEWS 32	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS 33	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS 34	AUG 15	TEMA: one FREE connect hour, per account, in September 2003
NEWS 35	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS 36	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS 37	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation

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 NEWS 38  AUG 18  Simultaneous left and right truncation added to ANABSTR

 NEWS EXPRESS  April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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FILE COVERS 1907 - 19 Aug 2003  VOL 139 ISS 8
FILE LAST UPDATED: 18 Aug 2003  (20030818/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s heparin and silica and xerogel and sol-gel
         41621 HEPARIN
          1459 HEPARINS
         41707 HEPARIN
                 (HEPARIN OR HEPARINS)
        415804 SILICA
          3157 SILICAS
        416149 SILICA
                 (SILICA OR SILICAS)
          2654 XEROGEL
          2495 XEROGELS
          3593 XEROGEL
```

(XEROGEL OR XEROGELS)
547975 SOL
14713 SOLS
553765 SOL
(SOL OR SOLS)
424963 GEL
84556 GELS
458094 GEL
(GEL OR GELS)
34141 SOL-GEL
(SOL(W)GEL)
L1 2 HEPARIN AND SILICA AND XEROGEL AND SOL-GEL

=> d L1 1-2 ibib abs hitrn

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:526565 CAPLUS
DOCUMENT NUMBER: 135:335078
TITLE: In vitro release of **heparin** from **silica xerogels**
AUTHOR(S): Ahola, Manja S.; Sailynoja, Eija S.; Raitavuo, Mari H.; Vaahtio, Minna M.; Salonen, Jukka I.; Yli-Urpo, Antti U. O.
CORPORATE SOURCE: Institute of Dentistry, University of Turku, Turku, FIN-20520, Finland
SOURCE: Biomaterials (2001), 22(15), 2163-2170
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Heparin**, a powerful anticoagulant used for the prophylaxis of both surgical and medical thrombosis, was incorporated into a **silica xerogel** matrix during polycondensation of org. silicate. The influence of various chem. **sol-gel** parameters (the properties of reaction precursors, catalyst and final moisture content of the gel and **heparin** concn.) was studied. The release of **heparin** from the gel was according to zero order during the dissoln. period and the release rate of **heparin** was proportional to the drug load in the concn. range between 6.8 and 13.6%. It was found that the catalyst used for the prepn. of the gel, the final moisture content and the chem. modification of **silica xerogel** network have an influence on the release rate of **heparin**. The released **heparin** from all the different **xerogels** studied retained about 90% of its biol. activity.
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:152495 CAPLUS
DOCUMENT NUMBER: 134:198106
TITLE: Controlled release pharmaceutical compositions
INVENTOR(S): Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka; Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Bioxid Oy, Finland
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001013924	A1	20010301	WO 2000-FI710	20000822

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FI 9901806	A	20010226	FI 1999-1806	19990825
EP 1206268	A1	20020522	EP 2000-954693	20000822
JP 2003507427	T2	20030225	JP 2001-518061	20000822

PRIORITY APPLN. INFO.: FI 1999-1806 A 19990825
WO 2000-FI710 W 20000822

AB A compn. for the controlled release of a drug from a carrier. The biol. active agent is **heparin** or a related biol. active acidic polysaccharide and the carrier is a **sol-gel** derived **silica xerogel**. The **xerogel** is derived from a tetraalkoxysilane such as tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by an organo-modified alkoxysilane, preferably an alkyl-substituted alkoxysilane. The invention also concerns a method for the prepn. of the compn. Thus, a compn. was prepd. by hydrolyzing an tetraethoxysilane and an organo-modified alkoxysilane in the presence of a catalyst, optionally adjusting the pH to a value suitable for the drug (**heparin**), adding the drug, allowing the hydroxysilane to polymerize, and removing water and alc. formed in the hydrolyzate from the mixt.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s heparin and xerogel
41621 HEPARIN
1459 HEPARINS
41707 HEPARIN
(HEPARIN OR HEPARINS)
2654 XEROGEL
2495 XEROGELS
3593 XEROGEL
(XEROGEL OR XEROGELS)
L2 5 HEPARIN AND XEROGEL

=> d L2 1-5 ibib abs hitrn

L2 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:830888 CAPLUS
DOCUMENT NUMBER: 135:362645
TITLE: Bioresorbable hydrogel compositions for implantable prostheses
INVENTOR(S): Loomis, Gary L.; Lentz, D. Christian
PATENT ASSIGNEE(S): Scimed Life Systems, Inc., USA
SOURCE: U.S., 11 pp., Cont.-in-part of U.S. 6,028,164.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6316522	B1	20011113	US 1999-395725	19990914
US 5854382	A	19981229	US 1997-914130	19970818
US 6005020	A	19991221	US 1998-145588	19980902

US 6028164	A	20000222	US 1999-243379	19990201
US 2002035168	A1	20020321	US 2001-957427	20010920
US 6534560	B2	20030318		

PRIORITY APPLN. INFO.:
US 1997-914130 A3 19970818
US 1998-145588 A1 19980902
US 1999-243379 A2 19990201
US 1999-395725 A1 19990914

AB Crosslinked compns. formed from water-insol. copolymers are disclosed. These compns. are copolymers having a bioresorbable region, a hydrophilic region and at least two cross-linkable functional groups per polymer chain. Crosslinking of these polymers can be effected in soln. in org. solvents or in solvent-free systems. If crosslinking occurs in a humid environment, a hydrogel will form. If crosslinking occurs in a non-humid environment, a **xerogel** will form which will form a hydrogel when exposed to a humid environment and the resulting crosslinked materials form hydrogels when exposed to humid environments. These hydrogels are useful as components in medical devices such as implantable prostheses. In addn., such hydrogels are useful as delivery vehicles for therapeutic agents and as scaffolding for tissue engineering applications. The claimed water-insol. copolymers include lactide-oxirane copolymer dimethacrylate and lactide-methyloxirane-oxirane copolymer dimethacrylate.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:627008 CAPLUS
DOCUMENT NUMBER: 135:200455
TITLE: Base material for controlled-release of **heparin**-binding growth factors
INVENTOR(S): Yamamoto, Eriko; Tanihara, Masao; Suzuki, Yasuo; Noguchi, Atsushi; Mizushima, Hiroshi
PATENT ASSIGNEE(S): LTT Inst. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001233786	A2	20010828	JP 2000-51403	20000228

PRIORITY APPLN. INFO.:
JP 2000-51403 20000228

AB The invention relates to a base material for controlled-release of **heparin**-binding growth factor, e.g. basic fibroblast growth factor (bFGF) and hepatocyte growth factor (HGF) for repairing of tissue or organs, wherein the base material contains a crosslinked polymer contg. (1) **heparin**, (2) carboxyl-group-contg. polysaccharide except **heparin**, and (3) an amino group-contg. crosslinking agent. A **xerogel** was prepd. from ethylenediamine-2N-hydroxysuccinimide, sodium alginate, **heparin**, and 1-ethyl-3-(3-dimethylaminopropyl)-carbodiimide hydrochloride. A phosphate buffer soln. contg. bFGF and bovine serum albumin was applied to the **xerogel** to obtain a controlled-release delivery system of bFGF.

L2 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:526565 CAPLUS
DOCUMENT NUMBER: 135:335078
TITLE: In vitro release of **heparin** from silica **xerogels**
AUTHOR(S): Ahola, Manja S.; Sailynoja, Eija S.; Raitavuo, Mari H.; Vaahtio, Minna M.; Salonen, Jukka I.; Yli-Urpo, Antti U. O.
CORPORATE SOURCE: Institute of Dentistry, University of Turku, Turku,

FIN-20520, Finland
SOURCE: Biomaterials (2001), 22(15), 2163-2170
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Heparin**, a powerful anticoagulant used for the prophylaxis of both surgical and medical thrombosis, was incorporated into a silica **xerogel** matrix during polycondensation of org. silicate. The influence of various chem. sol-gel parameters (the properties of reaction precursors, catalyst and final moisture content of the gel and **heparin** concn.) was studied. The release of **heparin** from the gel was according to zero order during the dissoln. period and the release rate of **heparin** was proportional to the drug load in the concn. range between 6.8 and 13.6%. It was found that the catalyst used for the prepn. of the gel, the final moisture content and the chem. modification of silica **xerogel** network have an influence on the release rate of **heparin**. The released **heparin** from all the different **xerogels** studied retained about 90% of its biol. activity.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:152495 CAPLUS
DOCUMENT NUMBER: 134:198106
TITLE: Controlled release pharmaceutical compositions
INVENTOR(S): Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka; Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Bioxid Oy, Finland
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001013924	A1	20010301	WO 2000-FI710	20000822
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9901806	A	20010226	FI 1999-1806	19990825
EP 1206268	A1	20020522	EP 2000-954693	20000822
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003507427	T2	20030225	JP 2001-518061	20000822

PRIORITY APPLN. INFO.: FI 1999-1806 A 19990825
WO 2000-FI710 W 20000822

AB A compn. for the controlled release of a drug from a carrier. The biol. active agent is **heparin** or a related biol. active acidic polysaccharide and the carrier is a sol-gel derived silica **xerogel**. The **xerogel** is derived from a tetraalkoxysilane such as tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by an organo-modified alkoxysilane, preferably an alkyl-substituted alkoxysilane. The invention also concerns a method for the prepn. of the compn. Thus, a compn. was prepd. by hydrolyzing an tetraethoxysilane and an organo-modified alkoxysilane in the presence of a catalyst, optionally

adjusting the pH to a value suitable for the drug (**heparin**), adding the drug, allowing the hydroxysilane to polymerize, and removing water and alc. formed in the hydrolyzate from the mixt.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:48647 CAPLUS
DOCUMENT NUMBER: 130:129972
TITLE: Pharmaceutical gels containing hydrophilic polymer
INVENTOR(S): Schoenfeldt, Lars; Nielsen, Brian; Ayzma, Josef
PATENT ASSIGNEE(S): Coloplast A/S, Den.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9901166	A1	19990114	WO 1998-DK298	19980702
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, GW, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9879087	A1	19990125	AU 1998-79087	19980702
EP 994733	A1	20000426	EP 1998-929248	19980702
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002172708	A1	20021121	US 2000-446902	20000317
US 6565878	B2	20030520		

PRIORITY APPLN. INFO.: DK 1997-789 A 19970702
WO 1998-DK298 W 19980702

AB Pharmaceutical gels contain a non-fibrous porous material essentially consisting of one or more hydrophilic polymeric component(s) or one or more hydrophilic polymeric component(s) and one or more pharmaceutical medicaments, said method comprising forming an aq. soln., sol or gel comprising one or more hydrophilic polymers and/or pharmaceutical medicaments, freezing or foaming the soln., dehydrating the frozen or foamed soln. leaving a non-fibrous porous material in a solid, porous form, and optionally subjecting the resulting porous material to a dry heat treatment. A crosslinked **xerogel** having controlled morphol. was prepd. by mixing 40.0 g of a 2.00% sodium alginate soln. with 40.0 g of a 2.00% crosslinked CM-cellulose soln., and stirred. To the above mixt. was added 14.0 g of a 2.00% calcium alginate soln. and 3.00 g of a 13.2.00% calcium chloride dihydrate soln. and mixed to obtain a homogeneous sol gel. The sol gel was frozen into sheets with a thickness of 4 mm and freeze-dried.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s xerogel and tetraethoxysilane and methyltriethoxysilane
2654 XEROGEL
2495 XEROGELS
3593 XEROGEL
(XEROGEL OR XEROGELS)
8246 TETRAETHOXYSILANE

```
            16 TETRAETHOXYSILANES
          8253 TETRAETHOXYSILANE
                 (TETRAETHOXYSILANE OR TETRAETHOXYSILANES)
          1570 METHYLTRIETHOXYSILANE
             1 METHYLTRIETHOXYSILANES
          1571 METHYLTRIETHOXYSILANE
                 (METHYLTRIETHOXYSILANE OR METHYLTRIETHOXYSILANES)
L3          18 XEROGEL AND TETRAETHOXYSILANE AND METHYLTRIETHOXYSILANE

=> s L3 and nitric acid
        135905 NITRIC
             3 NITRICS
        135908 NITRIC
                 (NITRIC OR NITRICS)
       3703170 ACID
       1399077 ACIDS
       4162804 ACID
                 (ACID OR ACIDS)
         54841 NITRIC ACID
                 (NITRIC(W)ACID)
L4           1 L3 AND NITRIC ACID

=> d L4 ibib abs hitrn

L4   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2001:152495  CAPLUS
DOCUMENT NUMBER:          134:198106
TITLE:                    Controlled release pharmaceutical compositions
INVENTOR(S):              Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka;
                          Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S):       Bioxid Oy, Finland
SOURCE:                   PCT Int. Appl., 28 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2001013924      A1   20010301       WO 2000-FI710    20000822
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     FI 9901806         A    20010226       FI 1999-1806     19990825
     EP 1206268         A1   20020522       EP 2000-954693   20000822
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL
     JP 2003507427      T2   20030225       JP 2001-518061   20000822
PRIORITY APPLN. INFO.:                   FI 1999-1806     A  19990825
                                         WO 2000-FI710    W  20000822
AB   A compn. for the controlled release of a drug from a carrier. The biol.
     active agent is heparin or a related biol. active acidic polysaccharide
     and the carrier is a sol-gel derived silica xerogel. The
     xerogel is derived from a tetraalkoxysilane such as
     tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by
     an organo-modified alkoxysilane, preferably an alkyl-substituted
     alkoxysilane. The invention also concerns a method for the prepn. of the
     compn. Thus, a compn. was prepd. by hydrolyzing an
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tetraethoxysilane and an organo-modified alkoxysilane in the presence of a catalyst, optionally adjusting the pH to a value suitable for the drug (heparin), adding the drug, allowing the hydroxysilane to polymerize, and removing water and alc. formed in the hydrolyzate from the mixt.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s L3 and acetic acid
193936 ACETIC
22 ACETICS
193945 ACETIC
(ACETIC OR ACETICS)
3703170 ACID
1399077 ACIDS
4162804 ACID
(ACID OR ACIDS)
170028 ACETIC ACID
(ACETIC(W)ACID)
L5 1 L3 AND ACETIC ACID

=> d L3 1-18 ibib abs hitrn

L3 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:518040 CAPLUS
TITLE: Probing the chemical environment of 3-hydroxyflavone doped ormosils by a spectroscopic study of excited state intramolecular proton transfer
AUTHOR(S): Quaranta, A.; Carturan, S.; Maggioni, G.; Ceccato, R.; Della Mea, G.
CORPORATE SOURCE: Department of Materials Engineering, University of Trento, Povo, TN, 38050, Italy
SOURCE: Journal of Non-Crystalline Solids (2003), 322(1-3), 1-6
CODEN: JNCSBJ; ISSN: 0022-3093
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The spectroscopic properties of 3-hydroxyflavone (3-HF) mols. entrapped in films and in monoliths of sol-gel derived organically modified silicates (Ormosils) **xerogels** are studied by excitation and fluorescence spectroscopy as a function of the sol-gel precursors used for the synthesis. Different molar ratios of **tetraethoxysilane** (TEOS), **methyltriethoxysilane** (MTES) and phenyltriethoxysilane (PTES) as precursors are used for the sol prepn. Emission and excitation spectra in the UV-visible range and photo-degrdn. curves as a function of time are collected with a spectrofluorimeter. The 3-hydroxyflavone optical properties change in the different networks, owing to the effects of the chem. environment on the excited state intramol. proton transfer and to the soly. of the dye mols. in the different sol-gel systems. It turns out that the spectroscopic features can be used to probe the chem. state of the dye mols. microenvironment.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:283124 CAPLUS
DOCUMENT NUMBER: 138:405538
TITLE: Pore structures of methyl-modified silica **xerogels** by small angle x-ray scattering
AUTHOR(S): Xu, Yao; Li, Zhi-Hong; Fan, Wen-Hao; Wu, Dong; Sun, Yu-Han; Wang, Jun; Dong, Bao-Zhong
CORPORATE SOURCE: State Key Laboratory of Coal Conversion, Shanxi

Institute of Coal Chemistry, Chinese Academy of Sciences, Tairyuan, 030001, Peop. Rep. China
SOURCE: Wuli Xuebao (2003), 52(3), 635-640
CODEN: WLHPAR; ISSN: 1000-3290
PUBLISHER: Zhongguo Kexueyuan Wuli Yanjiuso
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Two kinds of methyl-modified silica **xerogels** were prepd. by mixing SiO2 colloidal suspension deriving from basic-catalyzed hydrolysis of TEOS (**tetraethoxysilane**) and siloxane polymer soln. prepd. from acid-catalyzed hydrolysis of MTES (**methyltriethoxysilane**) or DDS (dimethyldiethoxysilane). The **xerogels** were tested at the small angle x-ray scattering (SAXS) station of Beijing Synchrotron Radiation Facility. The distribution of pore size, the av. size of pores DSAXS, and the thickness of interface layer E were calcd. With the aid of nitrogen adsorption measurement, the pore structure was analyzed. Some micropores were found to be produced in methyl-modified SiO2 **xerogels** while second-aggregates were constructed through connecting first-aggregates with siloxane polymer of MTES or of DDS. At the same time, Me groups were attached to the bone of SiO2 clusters and become an interface layer between bone and pore. The interface layer have effects on both pore size and the adsorption of nitrogen in methyl-modified **xerogels**. Through transmission electron microscope we confirmed that the pore structures of the **xerogels** were affected strongly by the two different siloxane polymers. SAXS is a powerful technique to study pore structure of **xerogel** system.

L3 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:208383 CAPLUS
DOCUMENT NUMBER: 139:42273
TITLE: Composition and thermal stability of SiO2-based hybrid materials TEOS-MTEOS system
AUTHOR(S): Zaharescu, M.; Jitianu, A.; Braileanu, A.; Madarasz, J.; Novak, CS.; Pokol, G.
CORPORATE SOURCE: Institute of Physical Chemistry, Romanian Academy, Bucharest, Rom.
SOURCE: Journal of Thermal Analysis and Calorimetry (2003), 71(2), 421-428
CODEN: JTACF7; ISSN: 1388-6150
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Hybrid materials with different amts. of orgs. permanently bound on the inorg. network obtained in the TEOS-MTEOS (**tetraethoxysilane-methyltriethoxysilane**) system are used for obtaining coatings with different optical and mech. properties. To study the thermal stability of the mentioned materials, compns. with different molar ratios of the precursors were prepd. The influence of the solvent and water amts. on the gelation process was also investigated. The gels obtained were characterized by IR spectrometry and their decompn. temps. were detd. by DTA/TG. Thermal stability of the gels is rather influenced by their compn. than the conditions of the gelation process.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:152495 CAPLUS
DOCUMENT NUMBER: 134:198106
TITLE: Controlled release pharmaceutical compositions
INVENTOR(S): Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka; Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Bioxid Oy, Finland
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001013924	A1	20010301	WO 2000-FI710	20000822
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9901806	A	20010226	FI 1999-1806	19990825
EP 1206268	A1	20020522	EP 2000-954693	20000822
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003507427	T2	20030225	JP 2001-518061	20000822

PRIORITY APPLN. INFO.: FI 1999-1806 A 19990825
WO 2000-FI710 W 20000822

AB A compn. for the controlled release of a drug from a carrier. The biol. active agent is heparin or a related biol. active acidic polysaccharide and the carrier is a sol-gel derived silica **xerogel**. The **xerogel** is derived from a tetraalkoxysilane such as tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by an organo-modified alkoxysilane, preferably an alkyl-substituted alkoxysilane. The invention also concerns a method for the prepn. of the compn. Thus, a compn. was prepd. by hydrolyzing an **tetraethoxysilane** and an organo-modified alkoxysilane in the presence of a catalyst, optionally adjusting the pH to a value suitable for the drug (heparin), adding the drug, allowing the hydroxysilane to polymerize, and removing water and alc. formed in the hydrolyzate from the mixt.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:855620 CAPLUS
DOCUMENT NUMBER: 134:20709
TITLE: **Xerogels** and their preparation
INVENTOR(S): Sigel, Gary A.; Domszy, Roman C.
PATENT ASSIGNEE(S): Armstrong World Industries, Inc., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6156223	A	20001205	US 1993-51886	19930426

PRIORITY APPLN. INFO.: US 1993-51886 19930426

AB Thermally insulative **xerogels** and their prepn. are described. To obtain these **xerogels**, an inorg. gel having hydroxyl moieties is reacted with a silicon-nitrogen compd. which has a C1-6 hydrocarbon moiety on the silicon. Shrinkage of the gel during drying the gel is reduced and a more highly porous **xerogel** is obtained. The more highly porous **xerogel** has a low thermal cond. which makes it a good thermal insulation.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:606916 CAPLUS
DOCUMENT NUMBER: 131:222093
TITLE: Low-volatility solvent-based method for forming thin-film nanoporous aerogels on semiconductor substrates containing microelectronic circuits
INVENTOR(S): Smith, Douglas M.; Johnston, Gregory P.; Ackerman, William C.; Stoltz, Richard A.; Maskara, Alok; Ramos, Teresa; Jeng, Shin-puu; Gnade, Bruce E.
PATENT ASSIGNEE(S): Texas Instruments Incorporated, USA
SOURCE: U.S., 28 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5955140	A	19990921	US 1996-746680	19961114
US 6159295	A	20001212	US 1999-296911	19990422
US 6380105	B1	20020430	US 1999-324370	19990602
US 2003022524	A1	20030130	US 2002-135212	20020430

PRIORITY APPLN. INFO.:

US 1995-6852P	P	19951116
US 1995-6853P	P	19951116
US 1996-12764P	P	19960304
US 1996-12800P	P	19960304
US 1996-14005P	P	19960325
US 1996-22842P	P	19960731
US 1996-746680	A3	19961114
US 1996-746697	A3	19961114
US 1999-324370	A1	19990602

AB This invention has enabled a new, simple thin-film nanoporous dielec. fabrication method. In general, this invention uses glycerol as a solvent. This method allows thin-film aerogels/low-d. **xerogels** to be made without supercrit. drying, freeze drying, or a surface modification step before drying. Thus, this invention gives nanoporous dielecs. at room temp. and atm. pressure, without a sep. surface modification step. Although this method allows fabrication of aerogels without substantial pore collapse during drying, there may be some permanent shrinkage during aging and/or drying. This invention allows controlled porosity thin-film nanoporous aerogels to be deposited, gelled, aged, and dried without atm. controls. In another aspect, this invention allows controlled porosity thin-film nanoporous aerogels to be deposited, gelled, rapidly aged at an elevated temp., and dried with only passive atm. controls, such as limiting the vol. of the aging chamber.
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:515295 CAPLUS
DOCUMENT NUMBER: 131:261113
TITLE: Toward tailored **xerogel** composites: local dipolarity and nanosecond dynamics within binary composites derived from tetraethylorthosilane and ORMOSILs, oligomers or surfactants
AUTHOR(S): Baker, G. A.; Pandey, S.; Maziarz, E. P., III; Bright, F. V.
CORPORATE SOURCE: Department of Chemistry, Natural Sciences Complex, State University of New York at Buffalo, Buffalo, NY, 14260-3000, USA
SOURCE: Journal of Sol-Gel Science and Technology (1999),

15(1), 37-48
CODEN: JSGTEC; ISSN: 0928-0707
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The potential of **xerogel** composites to tailor the behavior of active dopants that are sequestered within the **xerogel** is examd. Toward this end, the local dipolarity and dynamics of two fluorescent probes (pyrene and rhodamine 6G, R6G) each co-doped at low concn. directly into a series of binary **xerogel** composites were investigated. The composites are composed of tetraethylorthosilicate (Si(OCH2CH3)4, TEOS) plus one of several organically-modified silanes (ORMOSILs), org. oligomers, or a common surfactant. For convenience these **xerogel** composites are divided into two classes: (1) **xerogels** wherein the org. character arises from the addn. of an ORMOSIL co-monomer, possessing a non-hydrolyzable org. functional group, that becomes covalently incorporated with in the **xerogels** and (2) **xerogels** wherein the org. content is adjusted by adding org. oligomers or a surfactant. Six organically-modified silylalkoxides of the form R'nSi(OR)4-n were investigated as ORMOSILs. Poly(ethylene glycol), Nafion, and Ionene 6,2 were tested as oligomers. Triton X-100 was used as the surfactant. To est. the local dipolarity within these composites the static fluorescence from pyrene mols., that were sequestered within the composites, was used. These expts. showed that the local dipolarity surrounding the av. pyrene mol. can be tuned significantly, but this depends on the actual org. species that one uses to prep. the **xerogel** composite. Time-resolved fluorescence anisotropy measurements were used to quantify the R6G mobility within the same composites. These results demonstrate that certain org. additive scan be used to adjust the R6G mobility within the **xerogel** composite.
REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:502748 CAPLUS
DOCUMENT NUMBER: 131:149863
TITLE: Molecular sieving silica membrane fabrication process
INVENTOR(S): Raman, Narayan K.; Brinker, Charles Jeffrey
PATENT ASSIGNEE(S): Gas Research Institute, USA; Sandia National Laboratories
SOURCE: U.S., 18 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5935646	A	19990810	US 1998-13346	19980126
US 5770275	A	19980623	US 1996-702745	19960823

PRIORITY APPLN. INFO.: US 1996-702745 19960823
AB A process for producing a mol. sieve silica membrane comprising depositing a hybrid org.-inorg. polymer comprising at least one org. constituent and at least one inorg. constituent on a porous substrate material and removing at least a portion of the at least one org. constituent of the hybrid org.-inorg. polymer, forming a porous film.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:460711 CAPLUS
DOCUMENT NUMBER: 131:106429
TITLE: Use of sol-gel techniques in the development of

surface-enhanced Raman scattering (SERS) substrates suitable for in situ detection of chemicals in seawater

AUTHOR(S): Murphy, T.; Schmidt, H.; Kronfeldt, H.-D.

CORPORATE SOURCE: Optisches Institut, Technische Univ. Berlin, Berlin, D-10623, Germany

SOURCE: Applied Physics B: Lasers and Optics (1999), 69(2), 147-150
CODEN: APBOEM; ISSN: 0946-2171

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The development of surface-enhanced Raman scattering substrates suitable for in situ environmental anal. in seawater is presented. Substrates consist of metal colloids encapsulated in a sol-gel-derived **xerogel** layer. Control of the gel parameters, such as porosity, pore size, and polarity, enables tailoring of sensitivity to different analyte groups. Gold and Ag colloids were used along with **tetraethoxysilane** (TEOS) and **methyltriethoxysilane** (MTEOS) precursors. Substrates are characterized by measurement of optical spectra and use of SEM. Activity is discussed in terms of the choice of precursor and choice of metal colloid. Spectra were obtained for a range of substituted benzene derivs. with detection limits of 100 ppb and 10 ppb for chlorobenzene and phenylacetylene, resp. Substrate selectivity is shown by the contrasting response of a single substrate type to similar mols., in particular phenylacetylene and benzonitrile. Details of mech. and chem. stability tests on the substrates are also included.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:784713 CAPLUS

DOCUMENT NUMBER: 130:102547

TITLE: Hybrid gels and nanoscale chemistry for optical applications

AUTHOR(S): Boilot, J-P.; Biteau, J.; Brun, A.; Chaput, F.; De Morais, T. Dantas; Darracq, B.; Gacoin, T.; Lahlil, K.; Lehn, J-M.; Levy, Y.; Malier, L.; Tsivgoulis, G-M.

CORPORATE SOURCE: Laboratoire de Physique de la Matiere Condensee, CNRS UMR 7643, Ecole Polytechnique, Palaiseau, 91128, Fr.

SOURCE: Materials Research Society Symposium Proceedings (1998), 519(Organic/Inorganic Hybrid Materials), 227-238
CODEN: MRSPDH; ISSN: 0272-9172

PUBLISHER: Materials Research Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A large variety of materials for optical and optoelectronic applications was developed by trapping active org. mols. and nanocrystals into pure inorg. and hybrid org.-inorg. gels. Concerning optically active mols., we focus only here on luminescent materials for solid state tunable lasers and light-emitting diodes, and photochromic materials for integrated optics and optical storage. Optical properties can be controlled by changing the nature and the intensity of chem. and steric interactions between the org. system and the solid host matrix. Concerning nanocrystals, we present two approaches for the synthesis of transparent solids based on II-VI semiconducting nanoparticles. A first category of materials consists in the dispersion of CdS nanoparticles in sol-gel silica matrixes. The luminescence can be controlled by offering an alternative pathway for the recombination of surface trapped carriers. A second group of transparent materials was obtained by considering the CdS nanoparticles not only as the optically active units, but also as the building blocks for the whole solid.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:442061 CAPLUS
DOCUMENT NUMBER: 129:84856
TITLE: Manufacture of annealable printing pastes for printing on glass surfaces
INVENTOR(S): Kalleder, Axel; Mennig, Martin; Schmidt, Helmut; Suyal, Nabin
PATENT ASSIGNEE(S): Sekurit Saint-Gobain Deutschland G.m.b.H. und Co. K.-G., Germany
SOURCE: Ger., 4 pp.
CODEN: GWXXAW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19650139	C1	19980702	DE 1996-19650139	19961204

PRIORITY APPLN. INFO.: DE 1996-19650139 19961204
OTHER SOURCE(S): MARPAT 129:84856
AB The pastes, comprising a low-melting glass component, inorg. pigments, and an inorg. and/or org. binder, and of which the pigment consists of C particles embedded in glass by sol-gel process, are manufd. by prepg. a **xerogel** using .gtoreq.1 org. Si compds. having general formula R1xSi(OR)4-x (R = alkyl; R1 = H, alkyl, or aryl; x = 0, 1, or 2), converting the **xerogel** into a precursor of the glass or into the glass itself by heating the **xerogel** at >5 degrees/min to a temp. corresponding to the transformation temp. or melting temp. of the glass, such that the C of the thermally decompg. org. part of the Si compds., in the form of C or Si-C compd., is immediately encapsulated in colloidal form by a dense glassy matrix. A mixt. consisting of Me(EtO)3Si 17.84 and Et4Si 5.20 g, and Levasil 300/30 (colloidal SiO2) 7.0 was contacted with concd. HNO3 0.18 mL, and the resulting sol was mixed with 114 g HCOONa in 0.64 mL HCOOH and dried to give a **xerogel**. Heating of the gel at 750.degree. for 60 min gave a porous glassy product with encapsulated colloidal C. The material was mixed with frits and terpineol and the resulting paste used for screen printing on float glass at 500-700.degree.. As waste, this glass can be added to the raw materials for float glass manuf. as the C will burn up in that process.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:427702 CAPLUS
DOCUMENT NUMBER: 129:72616
TITLE: Molecular sieveing silica membrane fabrication process
INVENTOR(S): Raman, Narayan K.; Brinker, Charles Jeffrey
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 18 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5770275	A	19980623	US 1996-702745	19960823
US 5935646	A	19990810	US 1998-13346	19980126

PRIORITY APPLN. INFO.: US 1996-702745 19960823

AB S process for producing a mol. sieve silica membrane comprising depositing a hybrid org.-inorg. polymer comprising at least one org. constituent and at least one inorg. constituent on a porous substrate material and removing at least a portion of the at least one org. constituent of the hybrid org.-inorg. polymer, forming a porous film.
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:264791 CAPLUS
DOCUMENT NUMBER: 126:336201
TITLE: Estimates of solvent polarity of Nile Red in sols and **xerogels**
AUTHOR(S): Nozawa, Kazuhiro; Matsui, Kazunori
CORPORATE SOURCE: Coll. Eng., Kanto Gakuin Univ., Yokohama, 236, Japan
SOURCE: Kenkyu Hokoku - Kanto Gakuin Daigaku Kogakubu (1996), 40(1), 75-80
CODEN: KGDKAT; ISSN: 0368-5373
PUBLISHER: Kanto Gakuin Daigaku Kogakubu Kogakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB Examn. was made of the absorption and fluorescence spectra of solvatochromic dye Nile Red in modified SiO2 gels prepd. from tetramethoxysialne (TMOS), **tetraethoxysilane** (TEOS), triethoxysilane (HTES) and **methyltriethoxysilane** (MTES). Nile Red showed a remarkable spectral shift during the sol-gel process, the direction and the extent depending on gel properties. ETN, empirical parameters of solvent polarity, were detd. based on the spectral shifts. As precursors for **xerogels** changed, ETN of **xerogels** decreased in the order, TEOS = TMOS > MTES > HTES. ETN of **xerogels** were 0.9-1 for TMOS and TEOS, this result showing the polarity of **xerogels** from TMOS and TEOS to be much the same as that of water. On the contrary, ETN of **xerogels** from HTES, as hydrophobic as styrene (0.127), was 0.13.

L3 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:63892 CAPLUS
DOCUMENT NUMBER: 126:199897
TITLE: Unsupported SiO2-based organic-inorganic membranes. Part 1. Synthesis and structural characterization
AUTHOR(S): Dire, Sandra; Pagani, Eva; Babonneau, Florence; Ceccato, Riccardo; Carturan, Giovanni
CORPORATE SOURCE: Departimento di Ingegneria dei Materiali, Universita di Trento, Trento, 38050, Italy
SOURCE: Journal of Materials Chemistry (1997), 7(1), 67-73
CODEN: JMACEP; ISSN: 0959-9428
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Tetraethoxysilane** (TEOS) and **methyltriethoxysilane** (MTES) have been used to prep. hybrid SiO2-based membranes. These self-supported materials were obtained from controlled polymn. reactions for various TEOS/MTES molar ratios ensuring the achievement of crack-free disks 8 cm in diam. and 10-40 .mu.m in thickness. The rheol. behavior of precursor solns. was studied and gelling times were detd. The whole process, from starting soln. to **xerogel**, was followed by FTIR spectroscopy, viscosity measurements and multinuclear solid-state NMR, and is discussed in terms of the hydrolysis-condensation kinetics of tetrafunctional and trifunctional silicon alkoxides. D., shrinkage, elastic modulus, modulus of rupture, and elongation at break were all detd. and related to preferential structural arrangements of networks according to the TEOS/MTES ratio.

L3 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1996:667384 CAPLUS
DOCUMENT NUMBER: 126:35695
TITLE: Shrinkage and microstructural development during drying of organically modified silica **xerogels**
AUTHOR(S): Raman, N. K.; Wallace, S.; Brinker, C. J.
CORPORATE SOURCE: Cent. Micro-Eng. Ceramics, Univ. New Mexico, Albuquerque, NM, 87131, USA
SOURCE: Materials Research Society Symposium Proceedings (1996), 435(Better Ceramics through Chemistry VII: Organic/Inorganic Hybrid Materials), 357-362
CODEN: MRSPDH; ISSN: 0272-9172
PUBLISHER: Materials Research Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The different driving forces behind syneresis in **methyltriethoxysilane/tetraethoxysilane** (MTES/TEOS) gels were studied by aging them in different H2O/EtOH pore fluids . The influence of gel/solvent interactions on the microstructural evolution during drying is shown using shrinkage, d., contact angle, and N2 sorption measurements. Competing effects of syneresis (that occurs during aging) and drying shrinkage resulted in the overall linear shrinkage of the organically modified gels to be const. at .apprx.50%. Increasing the hydrophobicity of the gels caused the driving force for syneresis to change from primarily condensation reactions to a combination of condensation and solid/liq. interfacial energy. In addn. the condensation driven shrinkage was obsd. to be irreversible, whereas the interfacial free energy driven shrinkage was obsd. to be partially reversible. Nitrogen sorption expts. show that **xerogels** with the same overall extent of shrinkage can have vastly different microstructures due to the effects of microphase sepn.

L3 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:411069 CAPLUS
DOCUMENT NUMBER: 125:116183
TITLE: Thermally insulative, microporous **xerogels** and aerogels
INVENTOR(S): Macip-Boulis, M. Antonieta; Boulis, Aheed G.
PATENT ASSIGNEE(S): Armstrong World Industries, Inc., USA
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5525643	A	19960611	US 1995-493153	19950728

PRIORITY APPLN. INFO.: US 1995-493153 19950728

AB Microporous aerogel and **xerogel** compns. are prepd. by a random polymn. reaction of a silanol-terminated polydimethylsiloxane (PDMS) and **tetraethoxysilane** (TEOS) and/or **methyltriethoxysilane** (MTEOS) at a molar ratio of .gtoreq.0.012 of the PDMS to TEOS and/or MTEOS to form a gel and the gel is then aged and dried. The reaction is in the presence of an acid catalyst at a molar ratio of .gtoreq.0.5 acid to TEOS and/or MTEOS, water at a molar ratio of 6-15 of the water to TEOS and/or MTEOS and a solvent at a min. molar ratio of .apprx.4 of the solvent to TEOS and/or MTEOS. Thus, polymg. of 25 mm TEOS and 10.1 mm PDMS in a soln. mixt. of 60 mm isopropanol and 15.1 mm THF in the presence of 6.37 mm HCl and 12.8 mm water at 80.degree. and aging for 24 h at 40.degree. and drying gave a gel having thermal cond. 0.031 W/m.degree.K.

L3 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:1002307 CAPLUS

DOCUMENT NUMBER: 124:49469
TITLE: Lipase immobilized by sol-gel technique in layers
AUTHOR(S): Kuncova, Gabriela; Guglielmi, Massimo; Dubina, Pavel; Safar, Bohuslav
CORPORATE SOURCE: Inst. Chem. Process Fundamentals, Acad. Sci. Czech Republic, Prague, 165 02, Czech Rep.
SOURCE: Collection of Czechoslovak Chemical Communications (1995), 60(9), 1573-7
CODEN: CCCCAK; ISSN: 0010-0765
PUBLISHER: Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Com. lipase was immobilized into an org.-inorg. matrix formed by hydrolysis of silicon alkoxides (**tetraethoxysilane**, dimethyldiethoxysilane and **methyltriethoxysilane**) with (3-aminopropyl)triethoxysilane, (3-thiopropyl)trimethoxysilane and chlorodiisopropyloctylsilane. Hydrolytic activity of lipase was tested after addn. of the enzyme to a prepolymer soln., after gelation, in **xerogel** particles and in thin layers deposited on glass slides by dip- or spin-coating. The prepolymer contg. NH groups showed the higher activity then the native enzyme.

L3 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:325524 CAPLUS
DOCUMENT NUMBER: 122:112583
TITLE: The influence of matrix-dopant interactions for all-optical memorization in doped **xerogels**
AUTHOR(S): Bentivegna, Florian; Canva, Michael; Brun, Alain; Chaput, Frederic; Boilot, Jean-Pierre
CORPORATE SOURCE: Institut d'Optique Theorique et Appliquee, Centre Universitaire d'Orsay-Paris XI, Orsay, 91403, Fr.
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1994), 2288(Sol-Gel Optics III), 609-20
CODEN: PSISDG; ISSN: 0277-786X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We show that including highly polarizable dopants into the pores of a **xerogel** matrix leads to interesting optical properties and applications, such as an all-optical mol. memory device. By submitting the sample to ultrashort linearly polarized optical pulses, we demonstrate that the dopants tend to align along the direction of the elec. field of the optical wave like in classical optical Kerr effect, and that the new alignment of the mols. is partially maintained. We study the influence of the matrix-dopant interactions on this phenomenon. For example, for rhodamine-like mols., we establish that the alignment ability as well as the relaxation times depend strongly on the structure of the gel network and on the coupling intensity between the host matrix and the guest mol.

=> file stnguide

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	90.23	90.65
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-16.93	-16.93

FILE 'STNGUIDE' ENTERED AT 14:56:52 ON 19 AUG 2003

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 15, 2003 (20030815/UP).

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=> file caplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                          ENTRY    SESSION
FULL ESTIMATED COST                                        2.70      93.35

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                          ENTRY    SESSION
CA SUBSCRIBER PRICE                                        0.00     -16.93

FILE 'CAPLUS' ENTERED AT 15:24:08 ON 19 AUG 2003
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FILE COVERS 1907 - 19 Aug 2003  VOL 139 ISS 8
FILE LAST UPDATED: 18 Aug 2003  (20030818/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s heparin and sol-gel
         41621 HEPARIN
          1459 HEPARINS
         41707 HEPARIN
                 (HEPARIN OR HEPARINS)
        547975 SOL
         14713 SOLS
        553765 SOL
                 (SOL OR SOLS)
        424963 GEL
         84556 GELS
        458094 GEL
                 (GEL OR GELS)
         34141 SOL-GEL
                 (SOL(W)GEL)
L6          20 HEPARIN AND SOL-GEL

=> s L6 and xerogel
          2654 XEROGEL
          2495 XEROGELS
          3593 XEROGEL
                 (XEROGEL OR XEROGELS)
L7           3 L6 AND XEROGEL

=> d L7 1-3 ibib abs hitrn

L7   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2003 ACS on STN
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ACCESSION NUMBER: 2001:526565 CAPLUS
DOCUMENT NUMBER: 135:335078
TITLE: In vitro release of **heparin** from silica **xerogels**
AUTHOR(S): Ahola, Manja S.; Sailynoja, Eija S.; Raitavuo, Mari H.; Vaahtio, Minna M.; Salonen, Jukka I.; Yli-Urpo, Antti U. O.
CORPORATE SOURCE: Institute of Dentistry, University of Turku, Turku, FIN-20520, Finland
SOURCE: Biomaterials (2001), 22(15), 2163-2170
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Heparin**, a powerful anticoagulant used for the prophylaxis of both surgical and medical thrombosis, was incorporated into a silica **xerogel** matrix during polycondensation of org. silicate. The influence of various chem. **sol-gel** parameters (the properties of reaction precursors, catalyst and final moisture content of the gel and **heparin** concn.) was studied. The release of **heparin** from the gel was according to zero order during the dissoln. period and the release rate of **heparin** was proportional to the drug load in the concn. range between 6.8 and 13.6%. It was found that the catalyst used for the prepn. of the gel, the final moisture content and the chem. modification of silica **xerogel** network have an influence on the release rate of **heparin**. The released **heparin** from all the different **xerogels** studied retained about 90% of its biol. activity.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:152495 CAPLUS
DOCUMENT NUMBER: 134:198106
TITLE: Controlled release pharmaceutical compositions
INVENTOR(S): Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka; Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Bioxid Oy, Finland
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001013924	A1	20010301	WO 2000-FI710	20000822
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9901806	A	20010226	FI 1999-1806	19990825
EP 1206268	A1	20020522	EP 2000-954693	20000822
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003507427	T2	20030225	JP 2001-518061	20000822

PRIORITY APPLN. INFO.: FI 1999-1806 A 19990825
WO 2000-FI710 W 20000822

AB A compn. for the controlled release of a drug from a carrier. The biol.

active agent is **heparin** or a related biol. active acidic polysaccharide and the carrier is a **sol-gel** derived silica **xerogel**. The **xerogel** is derived from a tetraalkoxysilane such as tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by an organo-modified alkoxysilane, preferably an alkyl-substituted alkoxysilane. The invention also concerns a method for the prepn. of the compn. Thus, a compn. was prepd. by hydrolyzing an tetraethoxysilane and an organo-modified alkoxysilane in the presence of a catalyst, optionally adjusting the pH to a value suitable for the drug (**heparin**), adding the drug, allowing the hydroxysilane to polymerize, and removing water and alc. formed in the hydrolyzate from the mixt.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1999:48647 CAPLUS
DOCUMENT NUMBER: 130:129972
TITLE: Pharmaceutical gels containing hydrophilic polymer
INVENTOR(S): Schoenfeldt, Lars; Nielsen, Brian; Ayzma, Josef
PATENT ASSIGNEE(S): Coloplast A/S, Den.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9901166	A1	19990114	WO 1998-DK298	19980702
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, GW, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9879087	A1	19990125	AU 1998-79087	19980702
EP 994733	A1	20000426	EP 1998-929248	19980702
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002172708	A1	20021121	US 2000-446902	20000317
US 6565878	B2	20030520		

PRIORITY APPLN. INFO.: DK 1997-789 A 19970702
WO 1998-DK298 W 19980702

AB Pharmaceutical gels contain a non-fibrous porous material essentially consisting of one or more hydrophilic polymeric component(s) or one or more hydrophilic polymeric component(s) and one or more pharmaceutical medicaments, said method comprising forming an aq. soln., sol or gel comprising one or more hydrophilic polymers and/or pharmaceutical medicaments, freezing or foaming the soln., dehydrating the frozen or foamed soln. leaving a non-fibrous porous material in a solid, porous form, and optionally subjecting the resulting porous material to a dry heat treatment. A crosslinked **xerogel** having controlled morphol. was prepd. by mixing 40.0 g of a 2.00% sodium alginate soln. with 40.0 g of a 2.00% crosslinked CM-cellulose soln., and stirred. To the above mixt. was added 14.0 g of a 2.00% calcium alginate soln. and 3.00 g of a 13.2.00% calcium chloride dihydrate soln. and mixed to obtain a homogeneous **sol gel**. The **sol gel** was frozen into sheets with a thickness of 4 mm and freeze-dried.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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=> s L6 and tetraethoxysilane
          8246 TETRAETHOXYSILANE
            16 TETRAETHOXYSILANES
          8253 TETRAETHOXYSILANE
                 (TETRAETHOXYSILANE OR TETRAETHOXYSILANES)
L8           2 L6 AND TETRAETHOXYSILANE

=> d L8 1-2 ibib abs hitrn

L8   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:        2001:152495  CAPLUS
DOCUMENT NUMBER:         134:198106
TITLE:                   Controlled release pharmaceutical compositions
INVENTOR(S):             Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka;
                         Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S):      Bioxid Oy, Finland
SOURCE:                  PCT Int. Appl., 28 pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.      KIND  DATE           APPLICATION NO.  DATE
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     WO 2001013924     A1   20010301       WO 2000-FI710    20000822
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     FI 9901806        A    20010226       FI 1999-1806     19990825
     EP 1206268        A1   20020522       EP 2000-954693   20000822
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL
     JP 2003507427     T2   20030225       JP 2001-518061   20000822
PRIORITY APPLN. INFO.:                  FI 1999-1806     A  19990825
                                        WO 2000-FI710    W  20000822
AB   A compn. for the controlled release of a drug from a carrier.  The biol.
     active agent is heparin or a related biol. active acidic
     polysaccharide and the carrier is a sol-gel derived
     silica xerogel.  The xerogel is derived from a tetraalkoxysilane such as
     tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by
     an organo-modified alkoxysilane, preferably an alkyl-substituted
     alkoxysilane.  The invention also concerns a method for the prepn. of the
     compn.  Thus, a compn. was prepd. by hydrolyzing an
     tetraethoxysilane and an organo-modified alkoxysilane in the
     presence of a catalyst, optionally adjusting the pH to a value suitable
     for the drug (heparin), adding the drug, allowing the
     hydroxysilane to polymerize, and removing water and alc. formed in the
     hydrolyzate from the mixt.
REFERENCE COUNT:         7     THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:        1998:462848  CAPLUS
DOCUMENT NUMBER:         129:235611
TITLE:                   Preparation and blood compatibility of new
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silica-chitosan hybrid biomaterials
AUTHOR(S): Chen, Hongmei; Tian, Xiaoming; Zou, Han
CORPORATE SOURCE: Institute of Biomedical Engineering, Jinan University, Canton, 510632, Peop. Rep. China
SOURCE: Artificial Cells, Blood Substitutes, and Immobilization Biotechnology (1998), 26(4), 431-436
CODEN: ABSBE4; ISSN: 1073-1199
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The development of new materials contg. both org. and inorg. structures is of great interest with respect to achievement of obtaining the special properties, and the **sol-gel** process has provided new opportunities for making such materials. In this paper, new silica-chitosan hybrid biomaterials were produced by this technique, using biopolymer chitosan and its **heparin**-like deriv. as the org. species to be incorporated into the silicon alkoxide (TEOS) based network. All the samples made were in form of thin, flexible films with optical clarity. Microphase sepd. structure was obsd. in the hybrid surface, with hydrophobic SiO2 and hydrophilic chitosan interleaved. These hybrid materials displayed good blood compatibility in comparison with their single component systems.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d L6 1-20 ibib abs hitrn

L6 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:356687 CAPLUS
DOCUMENT NUMBER: 138:364751
TITLE: In vitro metabolic engineering on a microscale microfluidics device using immobilized enzymes of a biosynthetic pathway
INVENTOR(S): Dordick, Jonathan S.; Srinivasan, Aravind; Kim, Jungbae; Sherman, David H.; Clark, Douglas S.
PATENT ASSIGNEE(S): Rensselaer Polytechnic Institute, USA; University of Minnesota; University of California at Berkeley
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003038404	A2	20030508	WO 2002-US35281	20021101

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-336045P P 20011101
AB Disclosed herein is a microfluidics device that can be used to prep. natural products and their analogs. The device comprises the enzymes of a biosynthetic pathway immobilized thereon and a means for sequentially directing a starting material and each ensuing reaction product to the

enzymes of the biosynthetic pathway in the order corresponding to the steps of the biosynthetic pathway. The device can thus be used to prep. the natural product using the natural starting material of the biosynthetic pathway or analogs of the natural product using an unnatural starting material. Alternatively, artificial pathways can be created by immobilizing an appropriate selection of enzymes on the device in an order whereby each subsequent enzyme can catalyze a reaction with the product of the prior enzyme. Novel chem. entities can be prepd. from these artificial pathways. Exemplary enzymic polyphenol synthesis on a microfluidics chip and methymycin synthesis on microfluidics chip are described.

L6 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:659723 CAPLUS
DOCUMENT NUMBER: 138:309190
TITLE: Comparison of structure and properties of TiO2 films synthesized by **sol-gel** and ion beam on biomedical NiTi alloy
AUTHOR(S): Liu, Jing-Xiao; Yang, Da-Zhi; Shi, Fei; Cai, Ying-Ji
CORPORATE SOURCE: Department of Materials Engineering, State Key Lab for Materials Modification by Laser, Ion, and Electron Beams, Dalian University of Technology, Dalian, 116024, Peop. Rep. China
SOURCE: Wuji Cailiao Xuebao (2002), 17(4), 797-804
CODEN: WCXUET; ISSN: 1000-324X
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB In order to improve the biocompatibility of NiTi alloy, TiO2 films were synthesized on the surface by **sol-gel** and Ion beam enhanced deposition (IBED) methods, resp. The structure, surface morphol. and compn. of the films were studied comparatively by X-ray diffraction (XRD), at. force microscopy (AFM) and X-ray photoelectron spectra (XPS). The electrochem. corrosion measurement shows that the two kinds of TiO2 films both can improve the corrosion resistance of metallic biomaterials in simulated body fluid as a protective layer on the surface. In order to further improve the anticoagulation of implants, immobilization of **heparin** mol. on the film surface was also investigated. The results indicate that **sol-gel**-derived TiO2 film can obtain better **heparin** immobilization effects than Ion beam derived TiO2 film.

L6 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:214808 CAPLUS
DOCUMENT NUMBER: 137:284290
TITLE: Silane-based hybrids for biomedical applications
AUTHOR(S): Kros, Alexander; Jansen, John A.; Holder, Simon J.; Nolte, Roeland J. M.; Sommerdijk, Nico A. J. M.
CORPORATE SOURCE: Department of Organic Chemistry, NSR Center, University of Nijmegen, Nijmegen, 6525ED, Neth.
SOURCE: Journal of Adhesion Science and Technology (2002), 16(2), 143-155
CODEN: JATEE8; ISSN: 0169-4243
PUBLISHER: VSP BV
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this paper, the prepn. of different hybrid silane materials is presented and their possible use in biomedical applications is discussed. The first example describes the development of biocompatible coatings based on **sol-gel** silicates, which can be used as a protective coating for implantable glucose sensors. Blending the silica with different org. polymers modified the properties of the resulting **sol-gel** materials. Their biocompatibility, both in vivo and in vitro, and their applications on biosensors were investigated. In

the second example, an amphiphilic block copolymer comprising hydrophilic poly(ethylene oxide) blocks and hydrophobic poly(methylphenylsilane) segments is presented. In aq. medium, this polymer forms vesicles in which a fluorescent dye is encapsulated. It was demonstrated that the vesicle aggregates could be broken up using UV irradn., indicating that these vesicles were potentially interesting as controlled release systems. Monolayer studies confirmed that after photolytic cleavage of the poly(methylphenylsilane) segments, no organized structures were formed from the remaining material.
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:870524 CAPLUS
DOCUMENT NUMBER: 137:145478
TITLE: Silica-based hybrid materials as biocompatible coatings for glucose sensors
AUTHOR(S): Kros, Alexander; Gerritsen, Martijn; Sprakel, Vera S. I.; Sommerdijk, Nico A. J. M.; Jansen, John A.; Nolte, Roeland J. M.
CORPORATE SOURCE: Department of Organic Chemistry, University of Nijmegen, Nijmegen, Neth.
SOURCE: Sensors and Actuators, B: Chemical (2001), B81(1), 68-75
CODEN: SABCEB; ISSN: 0925-4005
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The prepn. of **sol-gel** silica-based biocompatible coatings, which can be used for future implantable glucose sensors is described. Tetra-Et orthosilicate (TEOS) was used as precursor for water-borne silicate gels of which the properties were varied by mixing the sol with polyethylene glycol (SG-PEG), **heparin** (SG-HEP), dextran sulfate (SG-DS), nafion (SG-NAF) or polystyrene sulfonate (SG-PSS). The toxicity of the coatings was examd. in vitro using human dermal fibroblasts. All materials showed to be non-toxic and the cell proliferation rate of fibroblasts was found to be dependent on the additive. Glucose measurements using glucose oxidase-based sensors coated with the different hybrid films were performed both in buffered solns. contg. bovine serum albumin and in serum. Stable glucose responses were obtained for the coated sensors in both media. The SG-DS contg. coating appeared to be most promising for future in vivo glucose measurements.
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:526565 CAPLUS
DOCUMENT NUMBER: 135:335078
TITLE: In vitro release of **heparin** from silica xerogels
AUTHOR(S): Ahola, Manja S.; Sailynoja, Eija S.; Raitavuo, Mari H.; Vaahtio, Minna M.; Salonen, Jukka I.; Yli-Urpo, Antti U. O.
CORPORATE SOURCE: Institute of Dentistry, University of Turku, Turku, FIN-20520, Finland
SOURCE: Biomaterials (2001), 22(15), 2163-2170
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Heparin**, a powerful anticoagulant used for the prophylaxis of both surgical and medical thrombosis, was incorporated into a silica xerogel matrix during polycondensation of org. silicate. The influence of various chem. **sol-gel** parameters (the properties of

reaction precursors, catalyst and final moisture content of the gel and **heparin** concn.) was studied. The release of **heparin** from the gel was according to zero order during the dissoln. period and the release rate of **heparin** was proportional to the drug load in the concn. range between 6.8 and 13.6%. It was found that the catalyst used for the prepn. of the gel, the final moisture content and the chem. modification of silica xerogel network have an influence on the release rate of **heparin**. The released **heparin** from all the different xerogels studied retained about 90% of its biol. activity.

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:167855 CAPLUS
DOCUMENT NUMBER: 134:212785
TITLE: Novel multilayered material bearing a biologically active agent and the preparation thereof
INVENTOR(S): Ahola, Manja; Penttinen, Risto; Saeilynoja, Eija; Soedergard, Anders; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Bioxid Oy, Finland
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001015751	A1	20010308	WO 2000-FI730	20000829
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9901852	A	20010301	FI 1999-1852	19990901
EP 1207915	A1	20020529	EP 2000-956553	20000829
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003508128	T2	20030304	JP 2001-520162	20000829

PRIORITY APPLN. INFO.: FI 1999-1852 A 19990901
WO 2000-FI730 W 20000829

AB The invention provides a material for medical use in humans and/or animals bearing a biol. active agent, said material being multilayered, as well as a device of this material and a method to produce it. The material comprises a core material, wherein said core material is formed into a body, optionally into a body having the shape of a finished device; two or more layers of coating material of which the first layer has been applied onto said core material and addnl. layers have been applied onto said coating material of a preceding layer; and wherein at least one of the layers comprise said biol. active agent. Characteristic for this material is that the coating material is a biopolymer, a **sol-gel** produced silica gel or a biol. active mol. Poly-L-lactide sheets were coated with heparinized silica gel. for drug delivery ability tests.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:152495 CAPLUS
DOCUMENT NUMBER: 134:198106
TITLE: Controlled release pharmaceutical compositions

INVENTOR(S): Ahola, Manja; Saeilynoja, Eija; Salonen, Jukka; Penttinen, Risto; Yli-Urpo, Antti
PATENT ASSIGNEE(S): Bioxid Oy, Finland
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001013924	A1	20010301	WO 2000-FI710	20000822
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
FI 9901806	A	20010226	FI 1999-1806	19990825
EP 1206268	A1	20020522	EP 2000-954693	20000822
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003507427	T2	20030225	JP 2001-518061	20000822

PRIORITY APPLN. INFO.: FI 1999-1806 A 19990825
WO 2000-FI710 W 20000822

AB A compn. for the controlled release of a drug from a carrier. The biol. active agent is **heparin** or a related biol. active acidic polysaccharide and the carrier is a **sol-gel** derived silica xerogel. The xerogel is derived from a tetraalkoxysilane such as tetrethoxysilane (TEOS) and part of the tetraalkoxysilane is preplaced by an organo-modified alkoxysilane, preferably an alkyl-substituted alkoxysilane. The invention also concerns a method for the prepn. of the compn. Thus, a compn. was prepd. by hydrolyzing an tetraethoxysilane and an organo-modified alkoxysilane in the presence of a catalyst, optionally adjusting the pH to a value suitable for the drug (**heparin**), adding the drug, allowing the hydroxysilane to polymerize, and removing water and alc. formed in the hydrolyzate from the mixt.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:52585 CAPLUS
DOCUMENT NUMBER: 132:212637
TITLE: Immobilization of a biologically active coating on a hydrophobic L-lactide-.epsilon.-caprolactone copolymer
AUTHOR(S): Sailynoja, E.; Koskinen, M.; Salonen, J.; Holmlund, P.; Sodergard, A.; Koskinen, M.
CORPORATE SOURCE: Turku Centre for Biomaterials, Turku, FIN-20520, Finland
SOURCE: Journal of Materials Science: Materials in Medicine (1999), 10(12), 703-705
CODEN: JSMMEL; ISSN: 0957-4530
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The electron beam radiation induced grafting method was used to attach a reactive polyacrylamide (PAA) layer (20 wt%) on the surface of a biodegradable poly-L-lactide-co-.epsilon.-caprolactone (PLLA-co-CL). The biocompatibility of graft-polymer obtained was studied by cytotoxicity test and no signs of toxicity were obsd. **Heparin** and **sol-gel**-produced silica gel coatings were successfully

attached on the top of the polymeric material produced. The amt. of **heparin** immobilized directly on the surface can be controlled by reaction conditions: reaction time, temp. and pH of the incubation soln. By using acidic conditions, up to 98 .mu.g cm-2 of **heparin** was immobilized on the surface. The **sol-gel**-produced silica-gel layer formed by dipping technique was 30 .mu.m thick and the cracking of the layer was minimal after bending several times to 90.degree..

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:30400 CAPLUS
DOCUMENT NUMBER: 132:156720
TITLE: Biocompatibility evaluation of **sol-gel** coatings for subcutaneously implantable glucose sensors
AUTHOR(S): Gerritsen, M.; Kros, A.; Sprakel, V.; Lutterman, J. A.; Nolte, R. J. M.; Jansen, J. A.
CORPORATE SOURCE: Department of Biomaterials, College of Dental Science, University of Nijmegen, Nijmegen, 6500, Neth.
SOURCE: Biomaterials (1999), Volume Date 2000, 21(1), 71-78
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The objective of the current investigation is to det. the soft-tissue biocompatibility of **sol-gel** matrixes which can be used to optimize the properties of implantable glucose sensors. The biocompatibility of **sol-gel** matrixes with **heparin**, dextran sulfate, Nafion, polyethylene glycol, and polystyrene sulfonate was examd. in vitro in simulated body fluid and with cell culture expts. using human dermal fibroblasts. Finally, an in vivo study was performed. Therefore, **sol-gel** coated polystyrene disks were inserted s.c. in the back of rabbits. After 4 and 12 wk, the implants with surrounding tissue were retrieved and processed histol. In simulated body fluid, the formation of a granular calcium phosphate ppt. was obsd. Cell proliferation on polyethylene glycol, Nafion, and **heparin** coated substrates was comparable to control samples and significantly higher than on dextran sulfate and polystyrene sulfate coated substrates. Light microscopic evaluation of the retrieved in vivo samples showed a fair tissue reaction to all materials. Histomorphometric anal. demonstrated that there were no differences in tissue response to the different **sol-gel** coatings. In conclusion, **sol-gel** matrixes exhibit a fair biocompatibility both in vitro and in vivo. These results will form the basis for further research into the real merits of **sol-gel** coatings in optimizing the properties of s.c. implantable glucose sensors.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:637310 CAPLUS
DOCUMENT NUMBER: 132:20703
TITLE: A covalently interconnected phosphazene-silicate network: synthesis and surface functionalization
AUTHOR(S): Park, Sangwoork; Kim, Jin Seok; Chang, Youngkyu; Lee, Sang Cheon; Kim, Chulhee
CORPORATE SOURCE: Department of Polymer Science and Engineering, Inha University, Inchon, 402-751, S. Korea
SOURCE: Journal of Inorganic and Organometallic Polymers (1998), 8(4), 205-214
CODEN: JIOPE4; ISSN: 1053-0495

PUBLISHER: Kluwer Academic/Plenum Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A **sol-gel** precursor was prepd. by the reaction of poly[bis(2-(2-hydroxyethoxy)ethoxy)phosphazene] (1) with 3-isocyanatopropyltriethoxysilane. It was then **sol-gel** polymd. to produce a covalently interconnected phosphazene-silicate network with urethane functionalities. Isocyanato groups were introduced on the surface of the network through coupling by allophanate formation between hexamethylene diisocyanate and urethane functionalities on the gel surface. **Heparin** was immobilized on the surface of the network by reacting hydroxyl or amino groups of **heparin** with the surface isocyanato groups. The activity of the immobilized **heparin** was 4.0% that of free **heparin**.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:48647 CAPLUS
DOCUMENT NUMBER: 130:129972
TITLE: Pharmaceutical gels containing hydrophilic polymer
INVENTOR(S): Schoenfeldt, Lars; Nielsen, Brian; Ayzma, Josef
PATENT ASSIGNEE(S): Coloplast A/S, Den.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9901166	A1	19990114	WO 1998-DK298	19980702
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, GM, GW, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9879087	A1	19990125	AU 1998-79087	19980702
EP 994733	A1	20000426	EP 1998-929248	19980702
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002172708	A1	20021121	US 2000-446902	20000317
US 6565878	B2	20030520		

PRIORITY APPLN. INFO.: DK 1997-789 A 19970702
WO 1998-DK298 W 19980702

AB Pharmaceutical gels contain a non-fibrous porous material essentially consisting of one or more hydrophilic polymeric component(s) or one or more hydrophilic polymeric component(s) and one or more pharmaceutical medicaments, said method comprising forming an aq. soln., sol or gel comprising one or more hydrophilic polymers and/or pharmaceutical medicaments, freezing or foaming the soln., dehydrating the frozen or foamed soln. leaving a non-fibrous porous material in a solid, porous form, and optionally subjecting the resulting porous material to a dry heat treatment. A crosslinked xerogel having controlled morphol. was prepd. by mixing 40.0 g of a 2.00% sodium alginate soln. with 40.0 g of a 2.00% crosslinked CM-cellulose soln., and stirred. To the above mixt. was added 14.0 g of a 2.00% calcium alginate soln. and 3.00 g of a 13.2.00% calcium chloride dihydrate soln. and mixed to obtain a homogeneous **sol gel**. The **sol gel** was frozen

into sheets with a thickness of 4 mm and freeze-dried.
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:462848 CAPLUS
DOCUMENT NUMBER: 129:235611
TITLE: Preparation and blood compatibility of new silica-chitosan hybrid biomaterials
AUTHOR(S): Chen, Hongmei; Tian, Xiaoming; Zou, Han
CORPORATE SOURCE: Institute of Biomedical Engineering, Jinan University, Canton, 510632, Peop. Rep. China
SOURCE: Artificial Cells, Blood Substitutes, and Immobilization Biotechnology (1998), 26(4), 431-436
CODEN: ABSBE4; ISSN: 1073-1199
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The development of new materials contg. both org. and inorg. structures is of great interest with respect to achievement of obtaining the special properties, and the **sol-gel** process has provided new opportunities for making such materials. In this paper, new silica-chitosan hybrid biomaterials were produced by this technique, using biopolymer chitosan and its **heparin**-like deriv. as the org. species to be incorporated into the silicon alkoxide (TEOS) based network. All the samples made were in form of thin, flexible films with optical clarity. Microphase sepd. structure was obsd. in the hybrid surface, with hydrophobic SiO2 and hydrophilic chitosan interleaved. These hybrid materials displayed good blood compatibility in comparison with their single component systems.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:195041 CAPLUS
DOCUMENT NUMBER: 128:248633
TITLE: Improved bioresorbable sealants for porous vascular grafts
INVENTOR(S): Lentz, David J.; Loomis, Gary L.; Moroni, Antonio; Depreker, Jennifer
PATENT ASSIGNEE(S): Meadox Medicals, Inc., USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9810804	A1	19980319	WO 1997-US16161	19970911
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9744140	A1	19980402	AU 1997-44140	19970911
EP 941131	A1	19990915	EP 1997-942443	19970911
R: DE, FR, GB, NL, IE				
JP 2001506512	T2	20010522	JP 1998-513886	19970911

PRIORITY APPLN. INFO.: US 1996-713801 A 19960913

WO 1997-US16161 W 19970911

AB A bioresorbable sealant compn. useful for impregnating implantable soft-tissue prostheses includes at least two polysaccharides in combination to form a hydrogel or **sol-gel**. The sealant compns. may optionally include a bioactive agent and/or be crosslinked subsequent to application of these compns. to the substrate surface. A sealant compn. was prepd. from carrageenan type I and locust bean gum.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:477084 CAPLUS
DOCUMENT NUMBER: 127:140503
TITLE: **Heparin** immobilization onto **sol-gel** derived organic-inorganic hybrid network
AUTHOR(S): Kim, Chulhee; Kim, Eun Kyoung; Chin, In-Joo; Park, Ki Dong; Kim, Young Ha
CORPORATE SOURCE: Department of Polymer Science and Engineering, Inha University, Inchon, S. Korea
SOURCE: Surface Modification of Polymeric Biomaterials, [Proceedings of the American Chemical Society Division of Polymer Chemistry International Symposium on Surface Modification of Polymeric Biomaterials], Anaheim, Calif., Apr. 2-6, 1995 (1997), Meeting Date 1995, 157-164. Editor(s): Ratner, Buddy D.; Castner, David Gordon. Plenum: New York, N. Y.
CODEN: 64TFAA
DOCUMENT TYPE: Conference
LANGUAGE: English

AB Butanediol was condensed with 3-isocyanatopropyltriethoxysilane and subjected to a hydrolytic polymn. **sol-gel** process and then treated with **heparin** to provide matrix-immobilized **heparin**. In a variation of the process, HMDI was incorporated before **heparin** treatment, resulting in surface immobilization. **Heparin** activities were noted in both cases, esp. the latter.

L6 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:690851 CAPLUS
DOCUMENT NUMBER: 123:222200
TITLE: **Heparin** immobilization onto **sol-gel** derived organic-inorganic hybrid network
AUTHOR(S): Kim, Chulhee; Kim, Eun Kyoung; Chin, In Joo; Park, Ki Dong; Kim, Young Ha
CORPORATE SOURCE: Department Polymer Science and Engineering, Inha University Inchon, S. Korea
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1995), 36(1), 117-18
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The objective of this study is to provide a methodol. for a bio-functionalization, esp. **heparin** immobilization, on the surface of the org. inorg. hybrid networks prepd. by **sol-gel** process.

L6 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:502066 CAPLUS
DOCUMENT NUMBER: 122:266197
TITLE: **Heparin** immobilization on or into organic-inorganic hybrid polymeric network prepared by **sol-gel** method

AUTHOR(S): Kim, Chulhee; Kim, Eun Kyoung; Chin, In-Joo; Park, Ki Dong; Kim, Young Ha
CORPORATE SOURCE: Dep. Polymer Sci., Inha Univ., Inchon, 402-751, S. Korea
SOURCE: Pollimo (1995), 19(2), 240-6
CODEN: POLLDG; ISSN: 0379-153X
PUBLISHER: Polymer Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: Korean
AB A **sol-gel** precursor, (EtO)3Si(CH2)3NHCO2(CH2)4O2CNH(CH2)3Si(OEt)3 (I), was synthesized by the reaction of 1,4-butanediol and 3-isocyanatopropyltriethoxysilane. It was then **sol-gel** polymd. to produce an org-inorg. hybrid network with urethane functionalities. The degree of condensation of the network was measured to be around 80% by solid state CP MAS 29Si-NMR spectroscopy . NCO groups were introduced on the network surface through coupling by allophanate function between hexamethylene diisocyanate and urethane functionalities on the gel surface. **Heparin** was immobilized on the surface of matrix by reacting -OH or -NH2 of **heparin** with the surface NCO groups. On the other hand, **heparin** immobilization inside the matrix was carried out by the gelation of precursor I in the presence of **heparin**. **Heparin** activities were detd. to be 2.9% on the surface and 1.6% in the matrix by the activated partial thromboplastin time (APTT) method.

L6 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1992:34512 CAPLUS
DOCUMENT NUMBER: 116:34512
TITLE: Effect of ointments for treating scars and keloids on the metabolism of collagen in scar and healthy skin
AUTHOR(S): Janicki, Stanislaw; Sznitowska, Malgorzata
CORPORATE SOURCE: Dep. Pharm. Technol., Med. Acad. Gdansk, Gdansk, PL-80-506, Pol.
SOURCE: European Journal of Pharmaceutics and Biopharmaceutics (1991), 37(3), 188-91
CODEN: EJPBEL; ISSN: 0939-6411
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Studies of the mechanism of action of a topical gel (Contractubex compositum) and cream (Cepan), both contg. allantoin, **heparin** (I), and an ethanolic onion ext. as active ingredients, for the treatment of hypertrophic skin scars and keloids, in a guinea pig model of scar formation revealed both to reduce elevated collagen (II) formation as indicated by redns. in the amts. of NaCl-sol. II after application. Insol. I was not affected, however. In healthy unscarred skin, neither ointment affected II turnover. Further studies with a water-in-oil ointment and a **sol. gel** contg. the same ingredients yet prepd. in the lab., revealed no effects of ointment vehicle or phys. properties. I is considered the major active ingredient; possible roles of the other ingredients remain unknown.

L6 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1969:468245 CAPLUS
DOCUMENT NUMBER: 71:68245
TITLE: Periodical release of **heparin**-like polysaccharide within cytoplasm during cleavage of sea urchin egg
AUTHOR(S): Kinoshita, Seiichiro
CORPORATE SOURCE: Univ. Tokyo, Tokyo, Japan
SOURCE: Experimental Cell Research (1969), 56(1), 39-43
CODEN: ECREAL; ISSN: 0014-4827
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Heparin** is found in the cytoplasm of sea urchin eggs, either

assocd. with relaxing granules or free from any cytoplasmic structure, in resp. amts. which fluctuate reciprocally during cleavage. This behavior of **heparin** during cleavage is closely related to the stiffness of the cytoplasm, an increase in the amt. of free **heparin** coinciding with a decrease in the stiffness of the cytoplasm, and vice versa. The release of **heparin** can be induced in vitro by incubating isolated relaxing granules in SS-rich or Ca2+-free media. The intracellular release of **heparin** might exert a localized control on the **sol-gel** state of the cytoplasm, and this process may play an important role in the mechanism of cytoplasmic cleavage.

L6 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1967:451512 CAPLUS
DOCUMENT NUMBER: 67:51512
TITLE: Mechanism of the destabilizing effect of **heparin** on the cell division
AUTHOR(S): Csaba, Gyorgy; Bierbauer, Jozsef; Reti, Istvan
CORPORATE SOURCE: Med. Univ., Budapest, Hung.
SOURCE: Acta Biologica Academiae Scientiarum Hungaricae (1967), 18(2), 105-14
CODEN: ABAHAU; ISSN: 0001-5288
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effects of **heparin** (I) on blood coagulation; I antagonists, like protamine sulfate and CaCl2; and **heparin** components, like glucuronic acid and glucosamine, on regenerating planaria (Dugesia lugubris) were studied. I acted on cell division by influencing the **sol-gel** condition and causing malformation. The blastema-retarding effect of I was not parallel with the malformations, suggesting that I and histone bonds may be involved. In the malformation-producing effect, the most active component of I is glucosamine (2 mg./ml.), which when applied alone caused distortions in 100% of the planaria. 16 references.

L6 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1947:34667 CAPLUS
DOCUMENT NUMBER: 41:34667
ORIGINAL REFERENCE NO.: 41:6907b-d
TITLE: Influence of hydrotropic substances on the **sol/gel** transformation of blood plasma
AUTHOR(S): Wunderly, Ch.
CORPORATE SOURCE: Univ. Med. Clinic, Zurich, Switz.
SOURCE: Nature (London, United Kingdom) (1947), 160, 228
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. C.A. 41, 5916b. The following compds., as Na salts, were tested in vitro for their retarding influence on blood clotting: phenylsulfonic acid, 1-phenol-4-sulfonic acid (I), salicylic acid (II), 1,3-phenyldisulfonic acid, and 1,3,5-phenyltrisulfonic acid. I and II hasten the plasma **sol/gel** transformation, whereas the other compds. slightly retard the process. The more SO3Na-groups in the mol. of an aromatic substance the more efficient it becomes in retarding the clotting of blood plasma in vitro. The insignificant action of these compds. in vivo is ascribed to their low mol. wt. as compared with that of **heparin** and the different synthetic polysulfuric acid esters.